

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DAVID J. BAILLARGEON, THOMAS R. FORBUS JR.,  
KENNETH R. GRAZIANI, GRETCHEN R. HALL,  
NANCY M. PAGE, AND RICHARD F. SOCHA

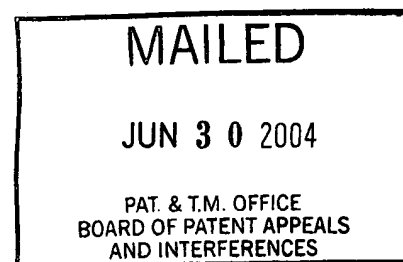
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Appeal No. 2003-1846  
Application No. 09/498,793

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ON BRIEF

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Before KIMLIN, KRATZ, and TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

***DECISION ON APPEAL***

This appeal involves claims 1-4 and 6-43 which are all the claims pending in the application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

### *INTRODUCTION*

The claims are related to formulated lubricant oils containing base oils (basestock) and additives. Claim 1 is illustrative of the subject matter on appeal:

1. A liquid lubricant composition, comprising

(i) a paraffinic biodegradable hydrocarbon basestock component having a biodegradability of at least 50% (OECD 301B) and having a pour point of from about -25°C to -55°C and a viscosity index of 130 to 160, in which the extent of branching, as measured by the percentage of methyl hydrogens (BI), and the proximity of branching, as measured by the percentage of recurring methylene carbons which are four or more carbons removed from an end group or branch ( $\text{CH}_2>4$ ), are such that:

- (a)  $\text{BI} - 0.5(\text{CH}_2>4) > 15$ ; and
- (b)  $\text{BI} + 0.85(\text{CH}_2>4) < 45$ ;

as measured over said hydrocarbon basestock as a whole, and

(ii) additives soluble in the basestock comprising a detergent and an antioxidant, the liquid lubricant composition having a CCS viscosity at -15°C of not more than about 3500 cP and a kinematic viscosity at 100°C of not less than about 5 cSt.

As evidence of unpatentability, the Examiner relies upon the following prior art reference:

Trewella et al. (Trewella)

6,090,989

Jul. 18, 2000

(effective filing date of Oct. 20, 1997)

Claims 1-4 and 6-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Trewella. The grounds of rejection are set forth at pages 3 and 4 of the Answer.

Because the evidence supports the Examiner's conclusion of obviousness and Appellants have failed to convince us of reversible error on the part of the Examiner, we affirm. Our reasons follow.

### ***OPINION***

#### ***The Grouping of the Claims***

Appellants group the claims into sixteen groups and provide arguments for each of the groups. We will, thus, in accordance with 37 CFR § 1.192(c)(7), select one claim from each of the groups and decide the appeal based on the issues presented by the selected claims. We start with a general discussion of obviousness based on what the evidence indicates was known to those of ordinary skill in the art at the time of the invention.

#### ***General Discussion of Obviousness***

What is critical to take note of in this case is the fact that Appellants' formulation requires the use of particular wax-isomerase basestocks in the formulated lubricant oil of the claims (specification, p. 6, ll. 19-22). The preferred basestock is that described in what is disclosed as co-pending Serial No. 09/170,683 (specification, p. 10, ll. 1-3) and what has now issued as the Trewella patent, the prior art reference applied by the Examiner in the rejection. This fact is critical because Trewella exemplifies basestocks not only having the same chemical composition as the claimed basestock (wax-isomerates or waxy hydrocarbons such as Fischer-Tropsch-

derived materials) with the same level of chain branching (Trewella, col. 3, ll. 14-26), but those exemplified basestocks have properties squarely within the ranges claimed (Trewella, Examples 9 and 10). The only difference is the lack of disclosure in Trewella of the claimed biodegradability property, a property, which as we will discuss later, the Examiner reasonably concludes is an inherent property.

Not only does Trewella describe the basestock, Trewella discloses using the basestock in a lubricating oil of the same type as claimed and with the same kinds of additives (Trewella, col. 3, ll. 39-57; col. 5, ll. 37-42). Trewella is cognizant of the fact that wax-derived basestocks with the specified chain branching lead to highly desirable lubricating properties including what Trewella states is an “unexpected combination of high viscosity index and low pour point.” (Trewella, col. 5, ll. 55-63). According to Trewella, the basestocks demonstrate “superior low temperature performance properties.” (Trewella, col. 1, ll. 11-13).

Not only is the basestock and formulated lubricating oil end use the same, but the standards the formulated lubricating oil must meet are the same. Appellants’ specification indicates that lubricating oils have been required to meet SAE Engine Oil Viscosity Classification-SAE J300, a standard based on low temperature viscosity measurement (CCS viscosity and MRV viscosity) and high temperature viscosity measurement (kinematic viscosity at 100 °C and HTHS viscosity) (specification, pp. 2-3). That this knowledge was within the skill

in the art is further supported by the discussion and measurement of CCS viscosity by Trewella (Trewella, col. 8, l. 61 to col. 9, l. 5; Fig. 1).

All of the evidence together indicates that using the basestock of Trewella along with the known additives to obtain formulated lubricating oils of the well known classifications was within the skill of the ordinary artisan in the lubricating oil art.

***Response to Appellants' General Considerations Applying to All the Claims***

Appellants open their arguments with general considerations applying to all claim groups (Brief, § 10.1). In this section of the Brief, Appellants state that “[t]he present claims are directed to lubricant compositions which are formulated using paraffinic basestocks which concededly may be within the scope of the Trewella disclosure but which form a more limited sub-class within the broader class described by Trewella.” (Brief, § 10.1.1). The claimed basestocks are a sub-class of the Trewella basestocks because, according to Appellants, the claims further define the basestock in terms of viscosity index and pour point and other properties (Brief, § 10.1.1). Appellants then launch into a discussion as to why one of ordinary skill in the art would not have selected this claimed “sub-class” of the Trewella basestocks because the property combination would have been contrary to expectations (Brief, § 10.1.2 to 10.1.9).

Appellants’ arguments ignore a critical fact: Examples 9 and 10 of Trewella describe basestocks of the same chemical composition, i.e., what Appellants call a wax-isomerase derived

base oil (specification, p. 10, ll. 1-4 referring to Serial No. 09/170,683 which issued as the Trewella patent) with properties squarely within the claimed ranges. The only property not described as within the claimed range is the biodegradability property of at least 50%. Trewella is silent with respect to biodegradability.

It is reasonable to conclude that the biodegradabilities of the basestocks of Examples 9 and 10 are within the claimed range based on the identical or nearly identical nature of the basestock chemistry to Appellants' basestock chemistry: They are both derived from the same waxy hydrocarbons, prepared by the same methods and have the same extent of chain branching. Because the materials and processing are identical or substantially similar, it is eminently fair and acceptable to shift the burden to Appellants and require them to prove that the basestocks of Trewella do not, in fact, possess a biodegradability of at least 50%. This is particularly true, where, as here, the reference represents work done in the same corporation. Appellants are in a better position to obtain the prior art products and make the required comparisons than is the PTO. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990); *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433-34 (CCPA 1977).

Therefore, with regard to the basestock, it is reasonable to believe that no selection of properties is required: *Prima facie*, Examples 9 and 10 describe basestocks having all the properties of claim 1 either expressly or inherently. There is no issue of "selection of the claimed sub-class." The species of Examples 9 and 10 of Trewella anticipate the basestocks of the claim.

*See Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 782, 227 USPQ 773, 779 (Fed. Cir. 1985); *In re Gosteli*, 872 F.2d 1008, 1010, 10 USPQ2d 1614, 1616 (Fed. Cir. 1989); *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960)(a species anticipates a claimed genus).

Appellants also argue that “there is an unexpected character to the presently claimed lubricants: the finished oils containing the additive package in addition to the basestock do not behave in conformance with the basestock properties” (Brief, § 10.1.8). Appellants argue that they have shown that the finished oils behave in a manner which is the opposite of what might have been expected from a knowledge of basestock properties (Brief, § 10.1.2 to 10.1.8). But the argument focuses on the disclosure in Trewella of various ranges for pour point and viscosity index and selection of the basestock based on those disclosed property ranges. This discussion again ignores the fact that Trewella discloses basestocks in Examples 9 and 10 which appear to meet all the limitations of the basestock of claim 1. There is no evidence that those of ordinary skill in the art would not have had a reasonable expectation of success in formulating lubricating oils with the CCS viscosity and kinematic viscosity required by claim 1 using the basestock of Examples 9 and 10. This is true particularly in view of the properties set forth for Examples 9 and 10 and the general disclosure in Trewella regarding the low temperature viscometric properties and kinematic viscosity of the basestocks (Trewella, col. 1, ll. 11-14; col. 3, ll. 5-8; Fig. 1 and col. 8, l. 61 to col. 9, l. 5; and Fig. 3 and col. 11, ll. 17-33).

To the extent that Appellants are arguing that there is evidence of unexpected results, the discussions of unexpectedness in the specification refer to the characteristics of the wax-isomerate basestock in comparison with synthetic oils and other types of hydroprocessed oils. But the closest prior art is Trewella which teaches wax-isomerate basestocks meeting the requirements of claim 1 either expressly or inherently. Trewella recognizes that the wax-isomerates unexpectedly exhibit a unique combination of both high viscosity indices and extremely low pour points (Trewella, col. 5, ll. 55-58). Moreover, Examples 11, 12, 16, and 18 taken from the specification and discussed in the Brief do not serve to show unexpected results over the lubricant formulations which would have been obvious in view of Trewella. Those examples do not show that any particular property is surprisingly good or significantly better, they only show that 0W-20 and 0W-40 oils can be made with basestocks with pour points of -66 °C or pour points of -40 °C. Appellants have not pointed to any evidence showing that this fact would have been surprising or unexpected to one of ordinary skill in the art who had knowledge of the basestocks of Trewella.

***Group 1***

Appellants' group 1 contains claims 1, 2, 6, 7, 9, 10, and 30-36 (Brief, § 7). In keeping with Appellants' arguments, we select claim 1 to represent the issues on appeal with regard to group 1.



With regard to claim group 1, Appellants argue that the Examiner failed to consider the significance of the selective combination of lubricant formulation characteristics set out in the claims of this group. Appellants here focus on the combination of CCS viscosity, kinematic viscosity, pour point, and biodegradability set forth in claim 1 (Brief, § 10.2.1.2). According to Appellants, it is the combination of properties expressed in claim 1 which would have been unexpected to the person of ordinary skill in the art at the time of the invention (Brief, § 10.2).

As we explained above, Trewella teaches basestocks meeting the basestock requirements of claim 1 either expressly or inherently.

With regard to CCS viscosity and kinematic viscosity, we are cognizant of the fact that it is the overall oil formulation which must have these properties. We conclude, however, that one of ordinary skill in the art would have had a motivation to formulate oils with these viscosity properties and a reasonable expectation of success in doing so. Our reasons in support of this conclusion follow.

Appellants make several factual statements with regard to CCS viscosity which we take to be true (Brief, § 10.2.1.2). First, as pointed out by Appellants, the claimed CCS viscosity is a characteristic of an oil of 15W maximum grade. In other words, claim 1 encompasses oils of the 0W to 15W grades. Second, the claimed CCS viscosity is indicative of a fair degree of chain branching in the basestock molecules. Third, CCS viscosity is not an inherent property of the

finished lubricant, the CCS viscosity can vary substantially without being correlated with the viscosity of the basestock.

With regard to Appellants' arguments, we cannot agree that "Trewella does not refer to the CCS value at all." (Brief, § 10.2.1.2). Trewella evinces the importance of this property in Figure 1 and the discussion accompanying it (Trewella, col. 8, l. 61 to col. 9, l. 5). The importance of the property was well known in the art as evinced by Appellants' own specification (specification, pp. 1-3).

Nor can we agree that there is a lack of factual underpinnings supporting a conclusion of obviousness as argued by Appellants (Brief, § 10.2.1.8). One of ordinary skill in the art would have been motivated to formulate 0W to 15W oils because they perform well at low temperatures and a traditional problem in the art has been achieving a useable balance of low-temperature and high temperature properties (specification, p. 1, ll. 17-24). One of ordinary skill in the art would have had a reasonable expectation of success in formulating an engine oil of 0W to 15W grade based on the useful low temperature viscometric properties of Trewella's basestocks and other disclosed properties (Trewella, col. 3, ll. 5-8) and the formulation knowledge of one of ordinary skill in the art. We note that Appellants provide no indication in their specification that they are using formulation techniques unknown at the time of the invention. If indeed, Appellants obtained the claimed oil formulation through unknown formulation techniques there would be a

question of enablement under 35 U.S.C. § 112, ¶ 1 as such techniques are not disclosed in the specification.

***Group 2***

Claims 3, 4, and 8 are contained in group 2 (Brief, § 7). We select claim 3 to represent the issues on appeal with respect to group 2. Claim 3 requires that the basestock have an MRV viscosity at -30 °C of not more than about 60,000 cP, with a yield stress of not more than about 35 cP.<sup>1</sup>

As indicated in Appellants' specification, those of ordinary skill in the art understood at the time of the invention that formulated oils must meet MRV viscosity requirements (specification, p. 2, ll. 16-17). One of the MRV viscosity requirements is a low temperature viscosity requirement determined by MRV, ASTM D4684, with yield stress reported in pascals (Pa) and viscosity reported in centipoise (cP) (specification, p. 2, ll. 7-11).

Appellants imply through their arguments that Trewella must disclose values of MRV viscosity for finished oil formulations for the formulations of the claim to have been obvious to one of ordinary skill in the art at the time of the invention. Based on the fact that the MRV standard was known by those of ordinary skill in the art at the time of the invention and Trewella

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<sup>1</sup>It appears that the yield stress measurement units are in error as cP is short for centipoise and centipoise is a measure of viscosity. The specification indicates that ASTM D4684 requires reporting yield stress in pascals (Pa) (specification, p.2, ll. 7-11) and, indeed, Table 10 in the specification reports yield stress in pascals (Pa). We, therefore, treat the claim as reciting Pa as the unit of measurement for yield stress. The claim should be corrected should it be subject to further prosecution.

describes using the basestocks in the formulation of engine oils, we cannot agree with Appellants' argument. Again, the evidence as a whole indicates that once the basestock was known, formulation of engine oils based upon them would have been within the skill of the ordinary lubricant formulator.

***Group 3***

Appellants have grouped claim 10 separately in group 3 (Brief, § 7). This claim requires that the pour point of the basestock be from about -30 °C to about -45 °C. Examples 9 and 10 of Trewella describe basestocks of pour point -40 °C and -42 °C, respectively. The pour points are squarely within the range of claim 10.

Appellants argue that there is nothing in Trewella which recognizes the importance of making a selection of basestock according to intermediate pour point range. Since Trewella describes basestocks having the required property, there is no issue of selection.

***Groups 4-16***

For groups 4-16, we select claims 14, 18, 21, 23, 25, 27, 37, 38, 39, 40, 41, 42, and 43 to represent the issues on appeal. While Appellants have grouped these claims separately and we have considered them separately, we will address them together because the rationale supporting our decision for each group is substantially the same.

Each of the representative claims requires that the oil formulation conform to a particular SAE grade classification. For instance, claim 14 requires the oil formulation conform to SAE

0W grade and claim 18 requires the oil formulation conform to SAE 0W-30 grade. As we have expressed above, one of ordinary skill in the art would have known how to combine the basestock of Trewella with other commonly used formulation additives in order to obtain the grade desired. The basestock was known, there is no evidence that Appellants are using additives or techniques to formulate that were unknown, the disclosure of which would have been required in the specification for enablement, and, thus, once the basestock was known, the formulation of finished engine oils would have been routine and within the skill of the ordinary artisan.


We conclude, based upon the totality of the evidence, that the Examiner has established a legal basis for obviousness as per the requirements of 35 U.S.C. § 103(a) with respect to the subject matter of claims 1-4 and 6-43. Appellants have not persuaded us of any reversible error on the part of the Examiner nor have they presented probative evidence of secondary considerations which, on balance with the other evidence of record, weighs in favor of nonobviousness.

### ***CONCLUSION***


To summarize, the decision of the Examiner to reject claims 1-4 and 6-43 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

  
EDWARD C. KIMLIN  
Administrative Patent Judge

  
PETER F. KRATZ  
Administrative Patent Judge

  
CATHERINE TIMM  
Administrative Patent Judge

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